



## The costs of climate change: A study of cholera in Tanzania

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### Abstract:

Increased temperatures and changes in rainfall patterns as a result of climate change are widely recognized to entail potentially serious consequences for human health, including an increased risk of diarrheal diseases. This study integrates historical data on temperature and rainfall with the burden of disease from cholera in Tanzania and uses socioeconomic data to control for the impacts of general development on the risk of cholera. The results show a significant relationship between temperature and the incidence of cholera. For a 1 degree Celsius temperature increase the initial relative risk of cholera increases by 15 to 29 percent. Based on the modeling results, we project the number and costs of additional cases of cholera that can be attributed to climate change by 2030 in Tanzania for a 1 and 2 degree increase in temperatures, respectively. The total costs of cholera attributable to climate change are shown to be in the range of 0.32 to 1.4 percent of GDP in Tanzania 2030. The results provide useful insights into national-level estimates of the implications of climate change on the health sector and offer information which can feed into both national and international debates on financing and planning adaptation.

**Source:** <http://dx.doi.org/10.3390/ijerph8124386>

### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Policymaker

#### Exposure :

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

#### Geographic Feature:

# Climate Change and Human Health Literature Portal

resource focuses on specific type of geography

None or Unspecified

## **Geographic Location:** ☒

resource focuses on specific location

Non-United States

**Non-United States:** Africa

**African Region/Country:** African Country

**Other African Country:** Tanzania

## **Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease:** Cholera

## **Intervention:** ☒

strategy to prepare for or reduce the impact of climate change on health

A focus of content

## **Mitigation/Adaptation:** ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

## **Model/Methodology:** ☒

type of model used or methodology development is a focus of resource

Cost/Economic, Outcome Change Prediction

**Population of Concern:** A focus of content

## **Population of Concern:** ☒

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status

## **Resource Type:** ☒

format or standard characteristic of resource

Research Article

## **Timescale:** ☒

time period studied

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Medium-Term (10-50 years)

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content